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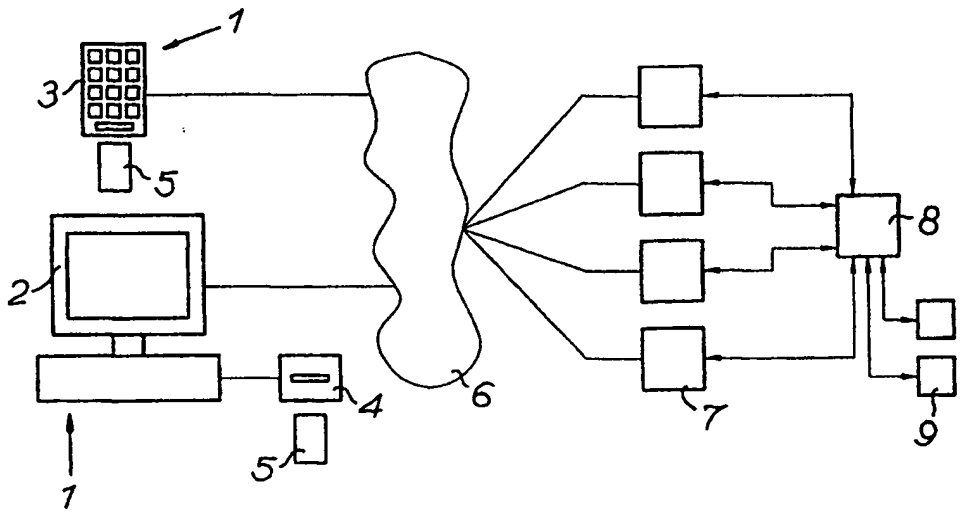

(57) Abstract

Method for supplying services via at least one existing network, whereby the user asking an "on–line" service provider, i.e. who is connected to this network, for a service via this network puts in identification data, control data for the authentication and the instruction, and whereby, on the basis of the identification data and the control data, the identity is first authenticated before the service is provided by the service provider, characterised in that the on–line service providers and other service providers who are connected to the same management centre leave the authentication of the user asking for a service, and possibly also the payment, to said management centre, and when the identity data, the control data and the instruction are received, they transmit these identity data and the control data to the management centre, which checks or authenticates, and if required validates the identity, and which will then communicate this to the service provider who will subsequently offer the service.

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Method for supplying services via at least one network and network architecture and management centre used thereby.

The present invention concerns a method for supplying services via at least one existing network, whereby the user asking an `on-line' service provider, i.e. who is connected to this network, for a service via this network puts in identification data, control data for the authentication and the instruction, and whereby, on the basis of the identification data and the control data, the identity is first authenticated before the service is provided by the service provider.

The on-line service provider can for example provide access to a network, offer information or it may be an electronic seller of products or services.

In quite some existing networks, the user can for example make himself known to a service provider by means of a card, whereby by putting in his secret code, for example by typing it on a keyboard, he validates the payment of the supplied services or products, or services or products to be supplied.

The user hereby gives his instructions to the service provider via his terminal, for example a PC or payment terminal. These instructions are split in an order job for the service provider on the one hand, and an identification and control part, consisting of for example the code of the card and the inputted secret control code on the other hand. This identification and control part, which cannot be recognised by the service provider, is transmitted to an

external management centre, for example an organisation managing pay cards.

However, this known method only offers restricted possibilities. If the external management centre is for example an organisation managing pay cards, this management service cannot offer any other services to the service provider than taking care of the payment. On the user's side, the latter can only pay with his pay card via the organisation managing these pay cards.

The invention aims to remedy these disadvantages and to provide a method for supplying services to the users and/or suppliers of a network offering more possibilities.

This aim is reached according to the invention in that the on-line service providers and other service providers who are connected to one and the same management centre leave the authentication of the user asking for a service, and possibly also the payment, to said management centre, and when the identity data, the control data and the instruction are received, they transmit these identity data and the control data to the management centre, which checks or authenticates, and if required validates the identity, and which will then communicate this to the service provider who will subsequently offer the service.

Preferably, a card (magnetic card or chip card) is given to the user, which allows the management centre to carry out the authentication when an instruction is given at any terminal whatsoever which belongs to or which is connected to a service provider who is himself connected to the management centre.

According to a special embodiment of the invention, the management centre also offers additional services to the service providers, apart from the authentication, such as the follow-up of virtual financial accounts such as discount vouchers, the orders placed in order to determine a discount percentage, etc., whereby the management centre can call in the help of external service providers for these additional services.

When a user gives an instruction, the service provider will note the instruction and the identity of the user and will transmit the identification data and control data, i.e. the request for authentication, to the management centre, together with possible additional questions, related for example to the creditworthiness of the user, possible advantages that are given to the user, etc.

The present invention also concerns a network architecture for applying the method according to any of the preceding embodiments.

The invention is thus related to a network architecture for providing on-line services to a user, which network architecture comprises a number of service providers, a number of terminals which are connected to the service providers via one and the same or different networks and by means of which a user can order a service via a network by putting in data related to his identity, control data to validate this identity and an instruction, and a management centre onto which the service providers are connected for the authentication and possibly the payment of the requested service, whereby the network architecture forms an open system and the management centre is shared by both the service providers who offer services or products to the users of this network via a closed network, and other

service providers, including host computers of local area networks of sellers, whereby this management centre is such that, no matter via which service provider it receives the data related to the identity and the control data of a user, it will guarantee the authentication or validation of the identity.

These service providers who are connected to the management centre may include, apart from on-line sales services, called shopping malls, one or several of the following: service providers giving access to a network provided there has been a payment, printing services whereby documents can be printed by the user's printer at a charge, as well as home automation systems or home computers and remote control appliances.

Preferably, the architecture of a network is such that the users can operate appliances via remote control by inserting a card which has been given to them in a terminal and by putting in their personal code.

Preferably, the management centre is designed such that it can authenticate the identity of a user on the basis of the identification data of a single card which has been allotted to the user and which is read by any card reader whatsoever of a terminal of the network architecture, and on the basis of the control data which have been inputted in any way whatsoever by this user.

Preferably, the management centre is built such that it can also provide other services than authenticating and possibly carrying out payment orders, whereby this management centre is advantageously linked to external service providers who can take care of certain tasks.

In particular, the management centre may be able to follow up virtual financial accounts, either directly or via external service providers, such as for example bonus accounts, coupons or discount percentages for users as a function of their purchases in the past, etc.

Also, the management centre and the connection to the service providers can be built such that the management centre can receive additional questions of the service providers and answer them, such as questions related to the creditworthiness, possible discounts to be applied, etc. and it may possibly be connected to this end with external service providers.

The invention also concerns a management centre as used in the network architecture according to the invention.

In order to better explain the characteristics of the invention, the following preferred embodiments of a method for providing services via a network, of a network architecture for this and of a management centre used thereby are described as an example only according to the invention, without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 represents a block diagram of a network architecture according to the invention;
figure 2 represents a block diagram which illustrates the method according to the invention;
figure 3 represents a block diagram analogous to that of figure 2, but with reference to another embodiment of the method according to the invention.

The network architecture represented in figure 1 for on-line service providing to a user forms an open system.

It contains a number of terminals 1, of which only two are represented in figure 1, namely a personal computer 2 and a payment terminal 3, both equipped with a card reader 4 for reading one and the same magnetic card or chip card 5 of a user.

These terminals 1 are connected to a number of service providers 7, either directly or by means of what is called a provider, via a single or several networks 6 such as internet, where the user can order an on-line service by putting in data regarding his identity by means of his card 5, for example by typing in a personal code, by putting in control data to validate said identity and by putting in the actual instruction.

These service providers 7 consist of service providers offering services or products via a closed network to the users of this network, as well as other service providers, including host computers of local area networks of sellers, on-line service providers who can give access to a network provided there has been a payment, service providers who have specific information printed out by the user's printer at a charge, the processor of home computers or of home automation systems, or in a general way of any electric or electronic appliance which is connected on-line and which can be operated via remote control.

All service providers 7 are connected either wireless or via a network 6 to a single shared management centre 8 to authenticate and possibly to pay the required service.

This management centre 8 is built such that, no matter via which service provider 7 it receives the information related to the identity and the control data of a user, it

will guarantee the authentication or validation of the identity.

This management centre 8 is built such that it can also provide other services, such as carrying out payment instructions, the follow-up of virtual financial accounts, such as for example bonus accounts, coupons or discount percentages for users as a function of their purchases in the past, etc., and such that it can receive additional questions of the service providers 7 and answer them, such as questions related to the creditworthiness, possible discounts to be applied, etc.

In view of these additional services, the management centre 8 is connected to external service providers 9 who can carry out a number of tasks for the management centre 8, such as the follow-up of the virtual accounts, financial institutions for the payments, etc.

The network architecture works as follows:

After the user has had his card 5 read by the card reader 4 and has typed in his personal code on the keyboard of the terminal 1, he will give the instructions regarding the services or goods to be provided by a service provider 7.

This personal code can be a secret code which has been given to him by the management centre 8.

However, this personal code could also be the voice or the identification of a part of the body, for example a fingerprint, the face, the eyes or such of the user, provided the terminal 1 is equipped with the necessary appliances to analyse the voice or scan the part of the body.

The service provider 7 sends the identification data of the card 5 and the control data, consisting of the personal code which is illegible to him, to the management centre 8 in order to authenticate the identity, possibly together with a request for additional services such as questions related to the creditworthiness of the user, the discount to be given, etc.

The management centre 8 will provide these additional services entirely autonomously, or it will make use to this end of one or several of the external service providers 9.

The management centre 8 will authenticate the identity and the required additional services and communicate the result of all this to the service provider 7, who will carry out the instruction provided the identity is validated.

The management centre 8 can take care of the billing of the supplied services or goods, or, if it is connected to a financial institution, it can take care of the payment of the services or goods directly.

With a single card and a personal code, the user can give instructions to several service providers 7 at different terminals 1, not only to place orders, but for example also to give instructions to the processors of appliances which can be operated via remote control.

Thus, the user can give instructions from any terminal 1 whatsoever which is connected to the network 6 to for example set his central heating, close or open roll-down shutters, etc.

Just as the other instructions to on-line service providers 7, this control is protected by the management centre 8 via the common security.

The service provider 7 does not necessarily have to provide a number of services himself, but he can leave them to the management centre 8, such as among others the authentication, but also the additional services as mentioned above.

The number of possibilities has increased, both for the user, who can now give more varying instructions and can obtain services with a single card, and for the service provider 7, who can leave a number of services to the management centre 8.

The invention will be further illustrated by means of two practical examples.

As represented in figure 2, a user introduces himself by putting in his card 5 in the card reader 4 of a personal computer 2 to a service provider 7 offering products who is connected to the latter via a network 6, in other words, he sends identity data 10 to the service provider 7.

Following this, the service provider 7 will invite him to indicate what product he wants and he will ask for the personal code of the user, as represented by the arrow 11.

The user gives his personal code and thus control data 12, and he transmits the order or the instruction part 13.

The identity data 10 and the control data 12 are transmitted to the management centre 8 by the service provider 7, together with questions 14 for additional

services for the management centre 8, namely the question what discount can be given to the user and whether he is creditworthy.

The management centre 8 checks the identification of the user and validates it, and it takes care of the additional services, for which the management centre 8 can possibly get into contact with the external service provider 9 who for example keeps record of an account containing all the purchases of the user, together with the corresponding discount percentage.

The management centre 8 sends the result of the validation, together with the answers to questions raised, i.e. the discount percentage and the degree of creditworthiness, back to the service provider 7, as represented by the arrow 15.

On the basis thereof, the service provider 7 will carry out the order and communicate the amount to be paid to the user, as represented by the arrow 16. Said user finally gives instructions 17 to withdraw the amount from his account.

In the example represented in figure 3, a user has a home computer 2 in his house which controls among others the opening and closing of electrically operated shutters, and which is on-line connected to the management centre 8, and thus constitutes a service provider 7.

While travelling, said user puts his card 5 in the card reader 4 of a personal computer 2 which is also connected to the management centre 8 via a network 6, and he types in his secret code number on the keyboard.

Then, he types in his instructions to roll down the shutters.

The inputted information thus consists of identity data 10, control data 12 and an instruction part 13.

The home computer 2 sends the identity data 10 and the control data 12 to the management centre 8, which authenticates the identity and then communicates this to the home computer 2, which subsequently carries out the instructions of the instruction part 13 and makes the shutters roll down.

The invention is by no means limited to the above-described embodiments represented in the accompanying drawings; on the contrary, such a method and device for supplying services can be made in all sorts of variants while still remaining within the scope of the invention.

Claims.

1. Method for supplying services via at least one existing network, whereby the user asking an `on-line' service provider, i.e. who is connected to this network, for a service via this network puts in identification data, control data for the authentication and the instruction, and whereby, on the basis of the identification data and the control data, the identity is first authenticated before the service is provided by the service provider, characterised in that the on-line service providers and other service providers who are connected to the same management centre leave the authentication of the user asking for a service, and possibly also the payment, to said management centre, and when the identity data, the control data and the instruction are received, they transmit these identity data and the control data to the management centre, which checks or authenticates, and if required validates the identity, and which will then communicate this to the service provider who will subsequently offer the service.

2. Method according to claim 1, characterised in that a card (magnetic card or chip card) is given to the user, which allows the management centre to carry out the authentication when an instruction is given at any terminal whatsoever which belongs to or which is connected to a service provider who is himself connected to the management centre.

3. Method according to claim 1 or 2, characterised in that the management centre also offers additional services to the service providers, apart from the authentication, such

as determining the creditworthiness of a user, the follow-up of virtual financial accounts such as discount voucher accounts, the orders placed in order to determine a discount percentage, etc., whereby the management centre can call in the help of external service providers for these additional services.

4. Method according to claim 3, characterised in that, when a user gives an instruction, the service provider will note the instruction and the identity of the user and will transmit the identification data and control data, i.e. the request for authentication, to the management centre, together with possible additional questions, related for example to the creditworthiness of the user, possible advantages that are given to the user, etc.

5. Network architecture for providing on-line services to a user, which network architecture comprises a number of service providers (7), a number of terminals (1) which are connected to the service providers (7) via one and the same or different networks (6) and by means of which a user can order a service via a network (6) by putting in data (10) related to his identity, control data (12) to validate this identity and an instruction, and a management centre (8) onto which the service providers (7) are connected for the authentication and possibly for the payment of the requested service, characterised in that the network architecture forms an open system and in that the management centre (8) is shared by both the service providers who offer services or products to the users of this network via a closed network, and other service providers, including host computers of local area networks of sellers, whereby this management centre is such that, no matter via which service provider it receives the data related to the identity and the control data of a user, it

will guarantee the authentication or validation of the identity.

6. Network architecture according to claim 5, characterised in that these service providers who are connected to the management centre (8) include, apart from on-line sales services, called shopping malls, one or several of the following service providers (7): service providers (7) giving access to a network provided there has been a payment, printing services whereby documents can be printed by the user's printer at a charge, as well as home automation systems or home computers.

7. Network architecture according to claim 5 or 6, characterised in that the architecture of the network (6) is such that the users can operate appliances via remote control by inserting a card (5) which has been given to them in a terminal (1) and by putting in their personal code.

8. Network architecture according to any of claims 5 to 7, characterised in that the management centre (8) is designed such that it can authenticate the identity of a user on the basis of the identity data (10) of a single card (5) which has been allotted to the user and which is read by any card reader (4) whatsoever of a terminal (1) of the network architecture, and on the basis of the control data (12) which have been inputted in any way whatsoever by this user.

9. Network architecture according to any of claims 5 to 8, characterised in that the management centre is designed such that it can provide other services than authenticating and possibly carrying out payment orders, whereby this

management centre (8) is advantageously linked to external service providers (9) who can take care of certain tasks.

10. Network architecture according to claim 9, characterised in that the management centre (8) is built such that it is able to follow up virtual financial accounts, either directly or via external service providers (7), such as for example bonus accounts, coupons or discount percentages for users as a function of their purchases in the past, etc.

11. Network architecture according to any of claims 5 to 10, characterised in that the management centre (8) and the connection to the service providers (7) are built such that the management centre (8) can receive additional questions of the service providers (7) and answer them, such as questions related to the creditworthiness, possible discounts to be applied, etc. and it can possibly be connected to this end with external service providers (9).

12. Management centre as used in the network architecture according to any of claims 5 to 11.

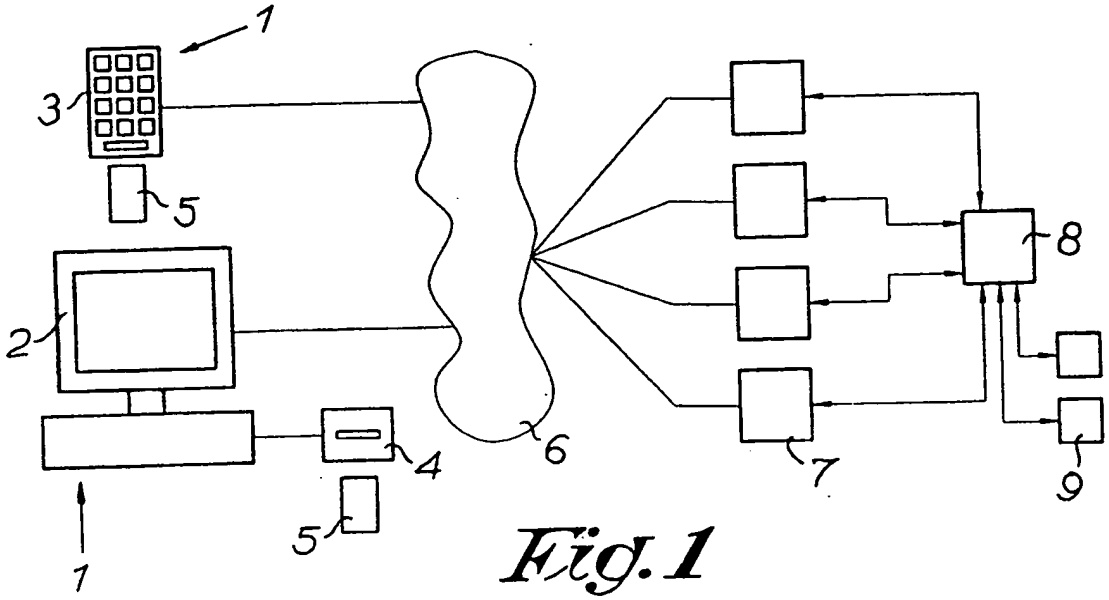

Fig.1

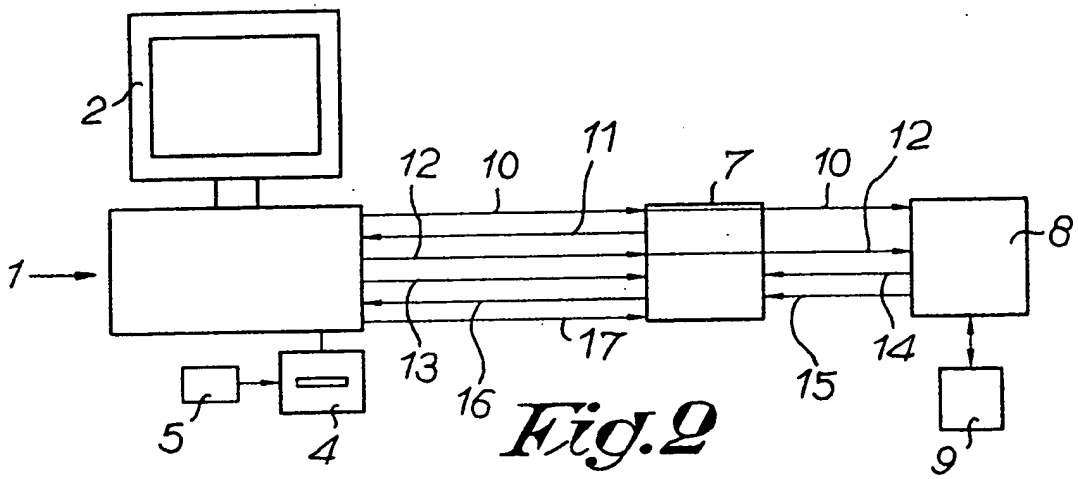

Fig.2

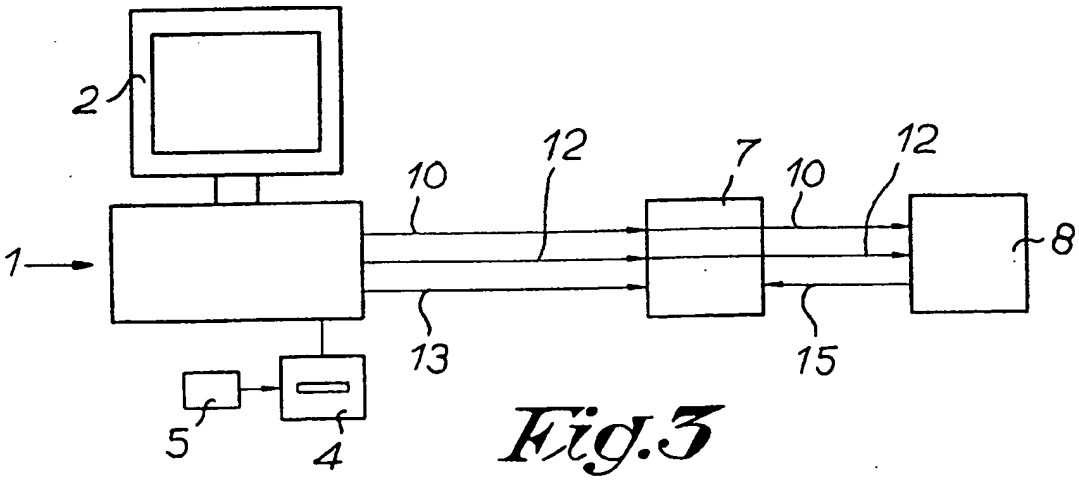

Fig.3